



Section D

Spent Nuclear Fuel

PROJECT MANAGERS

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SUMMARY

The Spent Nuclear Fuel (SNF) mission consists of the Spent Nuclear Fuel Project (SNFP) WBS 1.3.1.1 (Project Baseline Summary [PBS] WM01) and the subsequent Canister Storage Building (CSB) Operations Project WBS 1.3.2.1 (PBS WM02), which does not start until FY 2005.

NOTE: Unless otherwise noted, the Safety, Conduct of Operations, Milestone Achievement, and Cost/Schedule data contained herein is as of August 31, 2001. All other information is as of September 17, 2001, unless otherwise noted.

Fiscal year-to-date milestone performance (EA, HQ, and RL) showed that three out of four milestones (75 percent) were completed late and one milestone is overdue.

The Milestone Achievement details, found following the cost and schedule variance analysis, provide further information on all milestone types.

NOTABLE ACCOMPLISHMENTS

Fuel Movement Activities — To date, 25 Multi-Canister Overpacks (MCOs) (537 canisters – 7200 fuel assemblies) have been removed from K West (KW) Basin for a total of 117.38 Metric Tons of Heavy Metal (MTHM) shipped. The twenty-fifth MCO was shipped to the Cold Vacuum Drying Facility (CVDF) on September 17, 2001, eight working days ahead of schedule. This is the third MCO produced within 45 working hours. The current average processing time at the CVDF is 85.3 working hours, 4.7 working hours below the target time of 90 working hours. The newly installed manual process tables began operation on July 31, 2001. Improvements are consistent with expectations, and are still being evaluated.

K Basins Construction Projects — Activities conducted during this reporting period included:

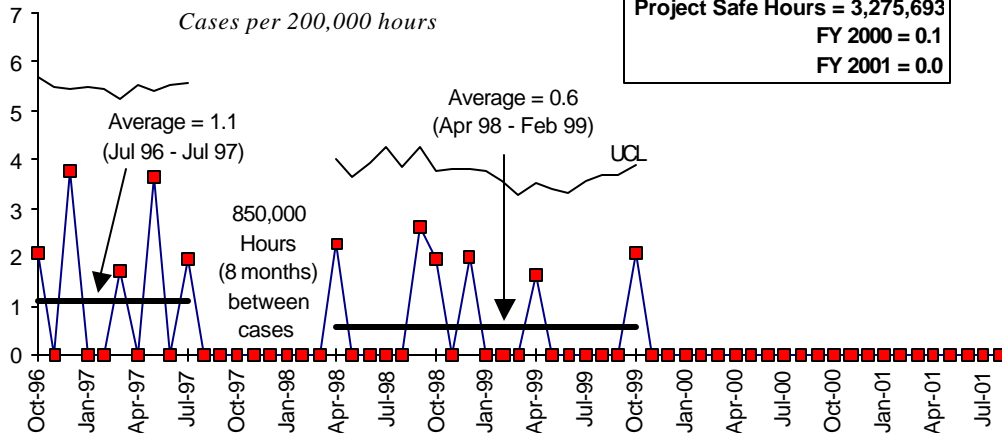
- Received bids for the design/fabrication of the Sludge Water System Cask, Transport and 6 canisters
- Completed the K East (KE) draft conceptual design report.
- Successfully completed the one-fourth-scale drop test for the Fuel Transfer System (FTS).
- Held 60 percent design reviews for the FTS Cask, transfer corridor and lift table / straddle carrier.
- Completed the North Manipulator modifications at KW.
- Completed the canister cleaner factory acceptance test and shipped to the site.
- Completed M0-237 habitability upgrades.

Site-Wide SNF Integration Activities — Seven additional Shippingport Spent Fuel Canisters were received. The Standard Startup Review for receipt/storage of Shippingport fuel at the Canister Storage Building (CSB) was completed. The contractor Operation Readiness Review was completed for fuel removal from T-Plant. The interface control document between the Sludge Handling Project and T Plant was approved. In addition, responses were provided to the Washington State Department of Health's Completeness Review comments to the Notice of Construction (NOC) in T-Plant.

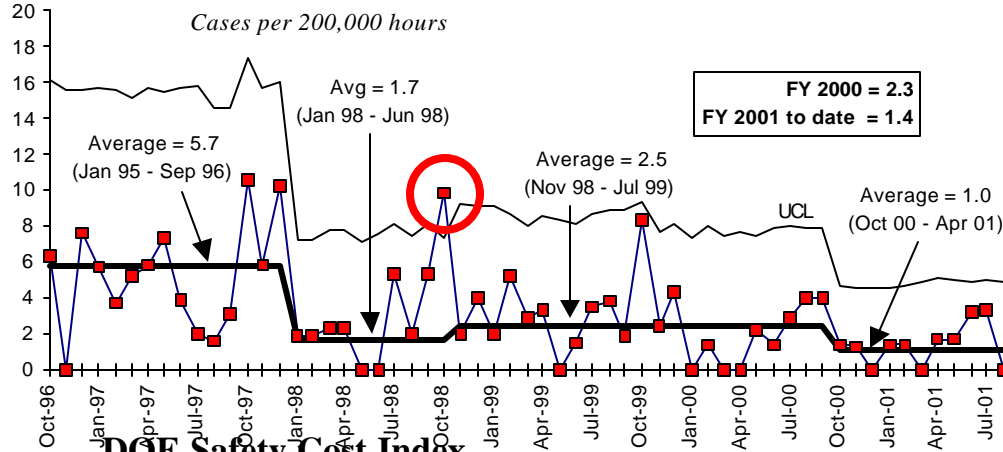
SAFETY

The Spent Nuclear Fuel (SNF) Project has achieved over 3.2 million safe work hours. No Lost Away Workday Cases have been reported in twenty-four months. The SNF OSHA Recordable Case rate for FY 2001 to date has been favorable.

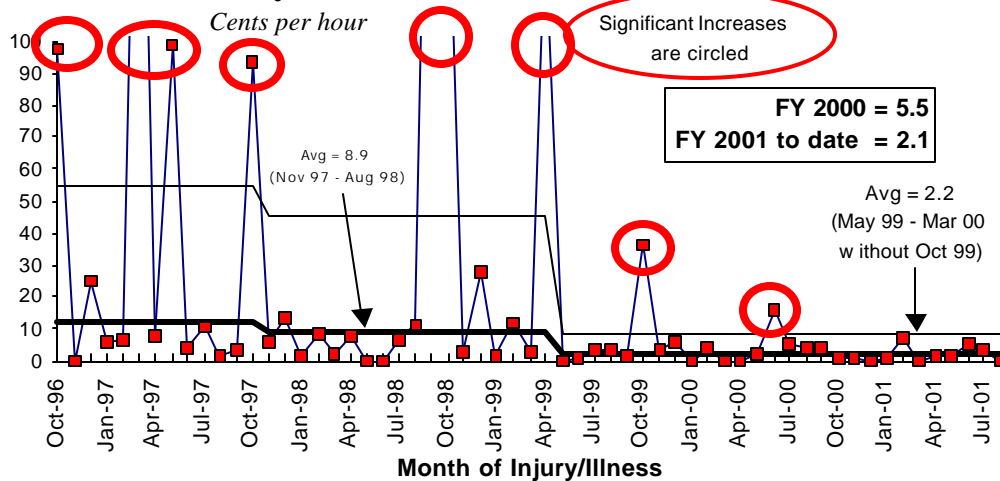
Lost Away Workday Case Rate



OSHA Recordable Case Rate



DOE Safety Cost Index

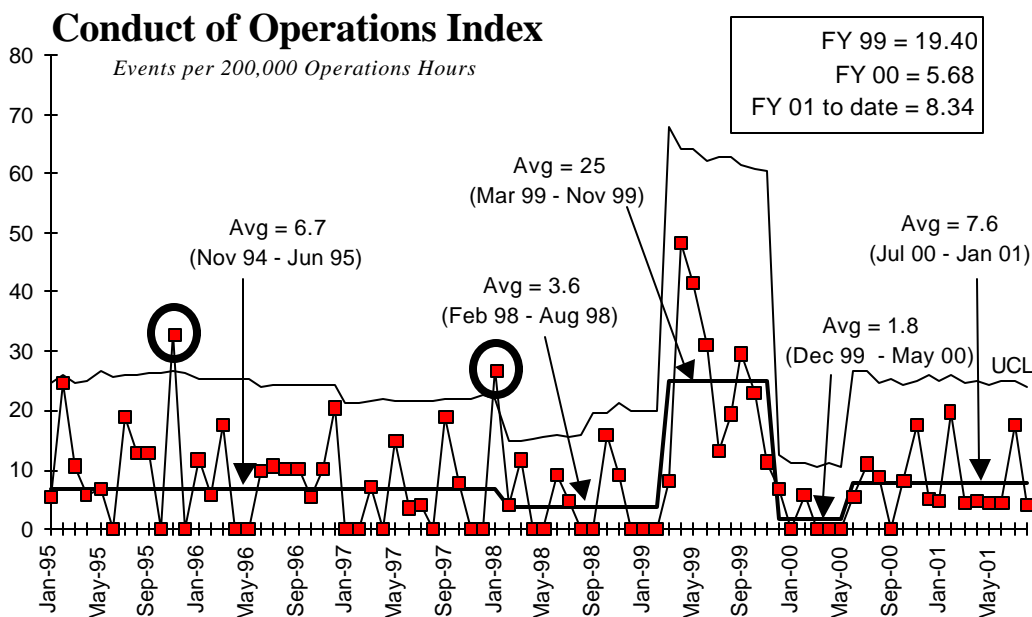


ISMS STATUS

SNF Project personnel continue to demonstrate a commitment to ISM in "Doing Work Safely". Several examples of this include:

- Initiated and conducted an independent assessment of the Enhanced Work Planning process to identify opportunities for improvement.
- Implemented a priority system to accomplish work that focuses on corrective maintenance necessary to continue facility operation and preventive maintenance to support the facility authorization basis.
- Worked to the Facility Managers goals by Engineering, Planning, Work Control and Maintenance organizations.
- Achieved over 3.2 million safe work hours through August 2001.
- Conducted a "Time Out for Safety" following the completion of the second maintenance outage.

CONDUCT OF OPERATIONS



In an effort to raise the projects focus on worker safety and conduct of operations, a weekly review of lessons learned and occurrence reports is conducted at the opening of the SNF Project senior staff meeting. The project continues to emphasis worker safety and conduct of operations with all project personnel.

BREAKTHROUGHS / OPPORTUNITIES FOR IMPROVEMENT

Breakthroughs

Green

105K West Fuel Processing / Production Improvements – The KW Fuel processing times have been reduced by more than 50 percent during the past year. The current average processing time is 38.9 working hours, 6.1 working hours less than the required target processing time of 45 working hours.

CVDF Fuel Processing / Production Improvements – The processing times at CVDF have been reduced from approximately 100 working hours per MCO to a current average of 85.3 working hours per MCO, 4.7 working hours less than the required target of 90 working hours.

Deactivation Acceleration – A plan to accelerate 100 area deactivation consistent with the stretch commitment has been documented in Baseline Change Request (BCR) No. SNF-2001-023. The BCR will establish a new baseline that accelerates deactivation of 100K Area by ten months.

Opportunities for Improvement

Green

Fuel Processing at KW – Efforts continue to reduce the fuel processing times at K West basin and the CVDF.

K Basin Sludge Wet Storage – A Value Engineering session was facilitated for potential elimination of K Basin fuel wash sludge Wet Storage in September. Two options have been identified for follow up.

T Plant Readiness – Methods to accelerate T-Plant readiness for potential early sludge removal are being evaluated.

UPCOMING ACTIVITIES

- Receive all Shippingport Spent Fuel Canisters by September 2001.
- Complete installation of Initiate KW Basin spent nuclear fuel canister cleaner and begin operations in November 2001.
- Initiate Shippingport fuel shipments to the CSB in November 2001.
- Approve Start of Construction for the KE and KW Basin facility modifications for FTS in first quarter FY 2002.
- Continue MCO shipments through FY 2002.

MILESTONE ACHIEVEMENT

Yellow

MILESTONE	FISCAL YEAR-TO-DATE				REMAINING SCHEDULED			TOTAL FY 2001
	Completed Early	Completed On Schedule	Completed Late	Overdue	Forecast Early	Forecast On Schedule	Forecast Late	
Enforceable Agreement	0	0	1	0	0	0	0	1
DOE-HQ	0	0	0	0	0	0	1	1
RI	0	0	2	1	0	0	0	3
Total	0	0	3	1	0	0	1	5

Only TPA/EA milestones and all FY2001 overdue and forecast late milestones are addressed in this report. Milestones overdue are deleted from the Milestone Exception Report once they are completed. The following chart summarizes the FY2001 TPA/EA milestone achievement and a Milestone Exception Report follows. The last milestone table summarizes the first six months of FY 2002 TPA/EA milestones.

FY 2001 Tri-Party Agreement / EA Milestones

Number	Milestone Title	Status
M-34-16 (DOE-HQ Milestone No. S00-01-900)	"Initiate Removal of K West Basin Spent Nuclear Fuel"	Due 11/30/00 – Completed on December 7, 2000. <div>Green</div>
M-34-06-T01 (RL Milestone No. S04-99-521)	"Initiate K West Basin Spent Nuclear Fuel Canister Cleaning Operations"	Due 12/31/00 – Overdue. Forecast start, September 30, 2001. Completion of Canister cleaning operations is driven by the fuel removal schedule. No additional impacts projected. <div>Yellow</div>
M-34-26-T01 (DOE-HQ Milestone No. S15-02-002)	"Approve Start of Construction for the K East and K West Basin facility modifications for AFTS"	Due 09/30/01 – Behind Schedule; forecast completion on October 8, 2001. <div>Yellow</div>

DNFSB Commitments

	Nothing to report at this time.	
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MILESTONE EXCEPTION REPORT

<u>Number/WBS</u>	<u>Level</u>	<u>Milestone Title</u>	<u>Baseline Date</u>	<u>Forecast Date</u>
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Overdue – 1

S04-99-521	RL	Start K West Canister Cleaning Operations	12/31/00	9/30/01
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1.3.1

Cause: Suspended design last summer to simplify system and reduce costs. SNF Project made a project management decision to defer work to FY 2001 and focus on near-term critical path items.

Impact: No impact to any other SNF Project baseline schedule activities or TPA/DNFSB milestones.

Corrective Action: Currently in design and on schedule; to be started by September 30, 2001.

Forecast Late – 1

S15-02002	HQ	Approve Start of Construction for AFTS	09/30/01	10/08/01
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1.3.1

Cause: Concerns identified during the 90% design review have put the start of construction on hold for approximately one week.

Impact: No impact to any other SNF Project baseline schedule activities or TPA/DNFSB milestones.

Corrective Action: Project developing work around schedules to mitigate potential downstream schedule impacts.

FY 2002 Tri-Party Agreement / EA Milestones

Number	Milestone Title	Status
M-34-29	"Complete K East Basin and K West Basin facility modifications for AFTS cask transportation system"	Due 03/31/2002 On Schedule.
M-34-12-T01 (S04-97-621)	"Complete Construction of K East Basin Integrated Water Treatment System (IWTS) to Support Spent Nuclear Fuel Removal"	Due 09/30/2002 On Schedule.

DNFSB Commitments

	Nothing to report at this time.	
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PERFORMANCE OBJECTIVES

Move Fuel Away from the River

EXPECTATION: Remove spent fuel from K Basins

Move first MCO of SNF from KW Basin and transport to the CVD Facility for processing by December 7, 2000 (TPA M34-16)

Status: Completed on schedule.

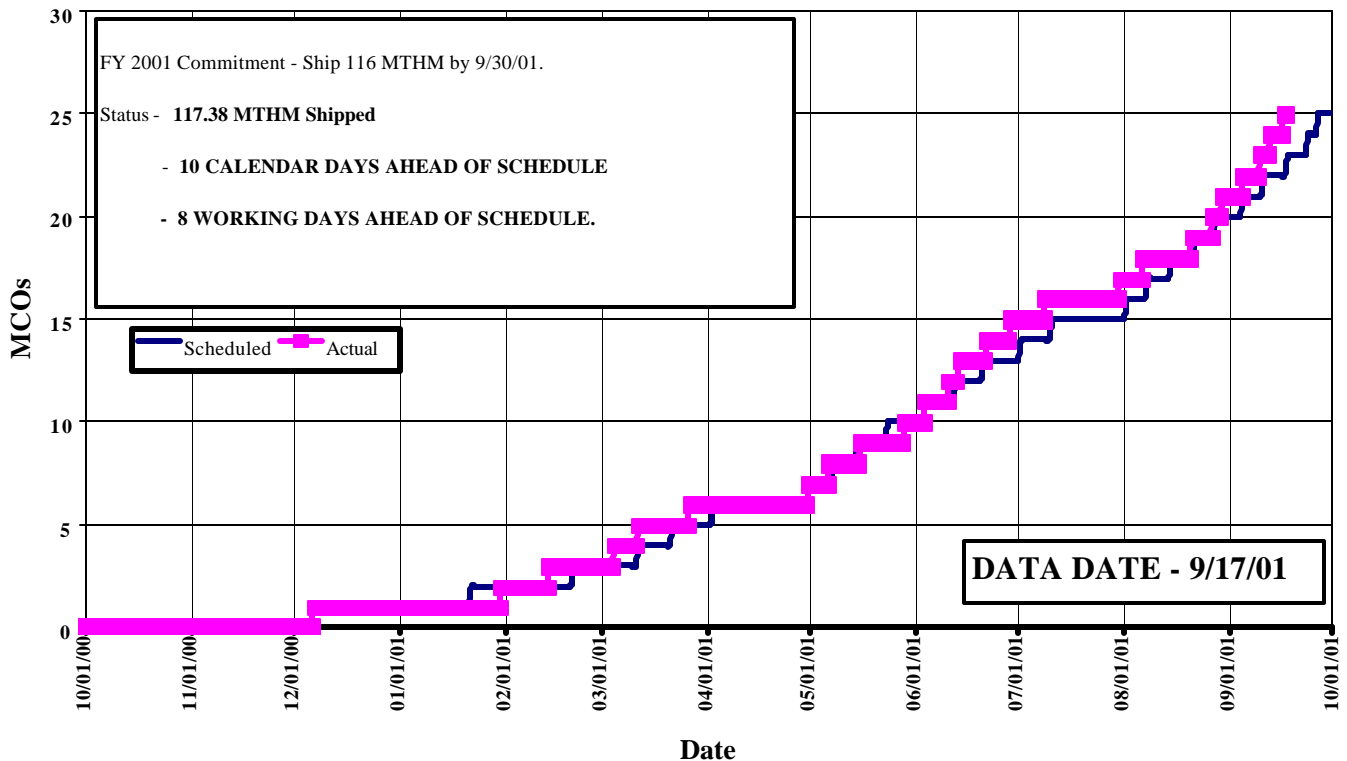
Move 116 Metric Tons Heavy Metal from KW Basin by end of FY 2001

Status: Eight days ahead of schedule.

Complete construction on Fuel Transfer System (FTS) by March 30, 2002

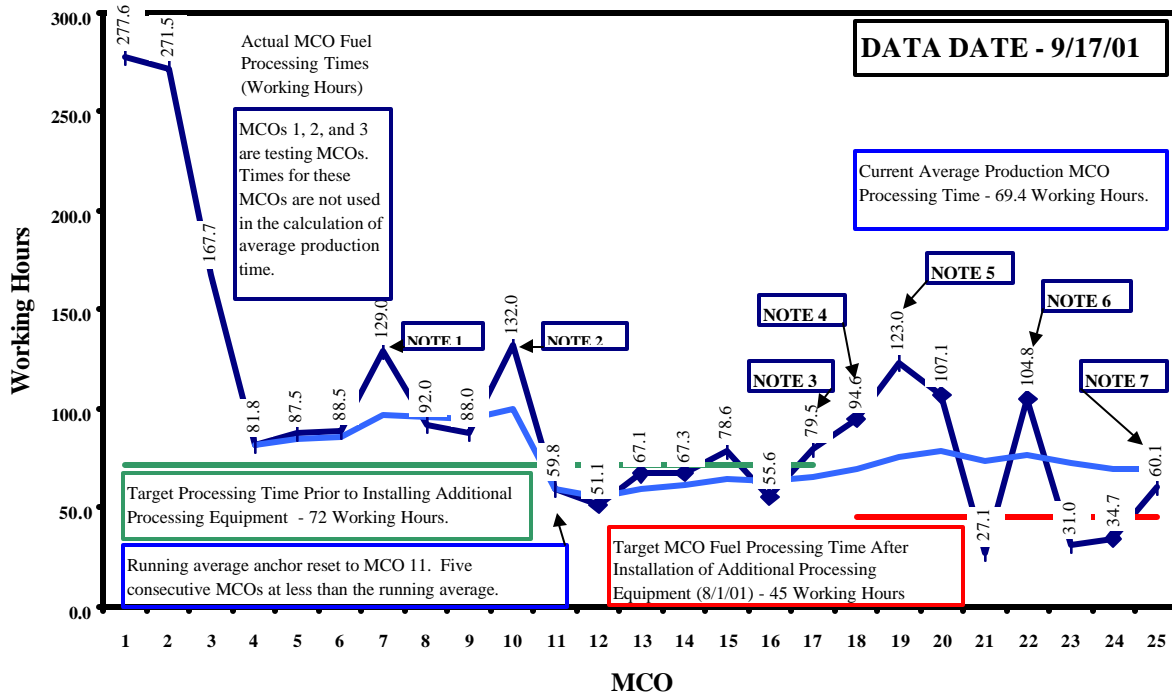
Status: On schedule.

FY 2001 MCO Baseline Production Performance

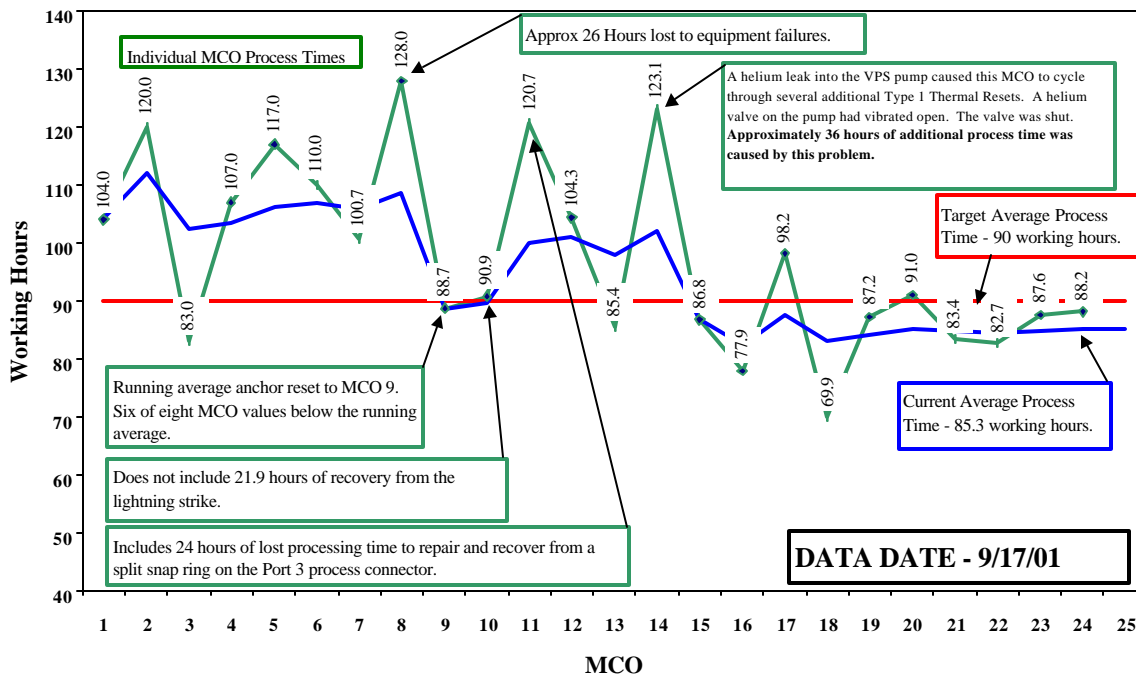


PERFORMANCE OBJECTIVES (CONTINUED)

105K West MCO Fuel Processing Times

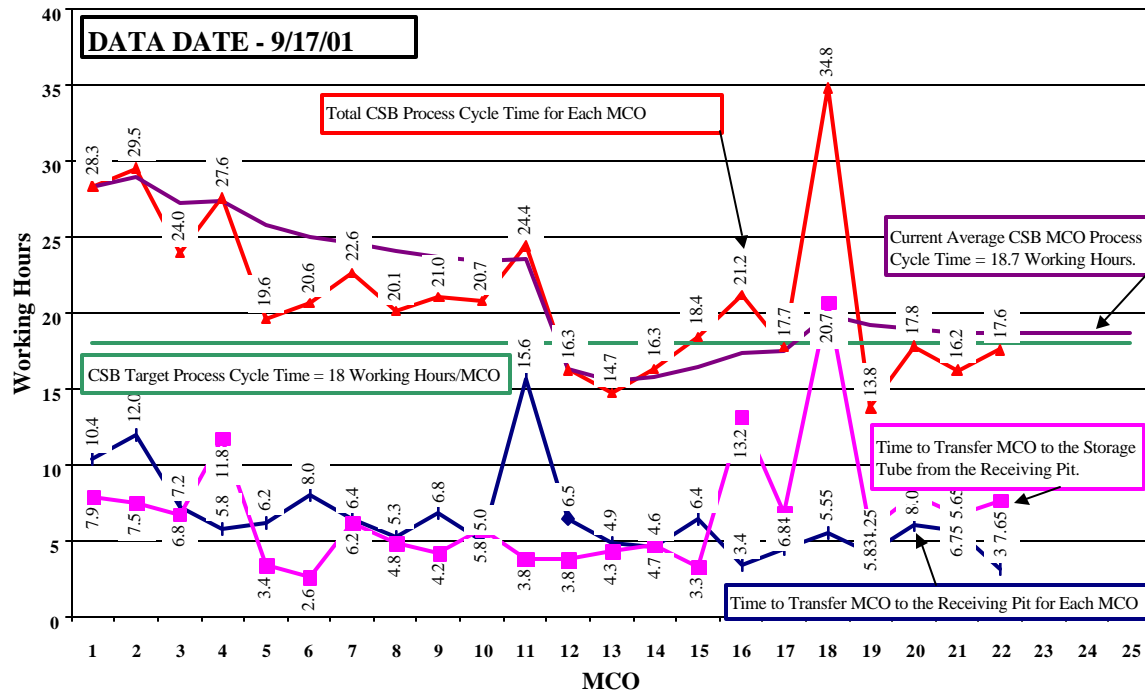


CVDF MCO Processing Times



PERFORMANCE OBJECTIVES (CONTINUED)

CSB MCO Process Cycle Times



FY 2001 SCHEDULE / COST PERFORMANCE – ALL FUND TYPES CUMULATIVE TO DATE STATUS – (\$000)

Green

		FYTD								
By PBS		BCWS	BCWP	ACWP	SV	%	CV	%	BAC	EAC
PBS WM01	Spent Nuclear	\$ 159,670	\$ 149,438	\$ 147,824	\$ (10,232)	-6%	\$ 1,614	1%	\$ 182,509	\$ 181,276
WBS 1.3	Fuel Project									
Total		\$ 159,670	\$ 149,438	\$ 147,824	\$ (10,232)	-6%	\$ 1,614	1%	\$ 182,509	\$ 181,276

FY TO DATE SCHEDULE / COST PERFORMANCE

SNFP cost and schedule figures now reflect incorporation of Fuel Transfer System baseline changes, which more accurately portrays current performance. Additional BCRs deleting and re-profiling work scope are pending, and will improve the schedule variance once approved and implemented.

For all active sub-PBSs and TTPs associated with the Operations/Field Office, Fiscal Year to Date (FYTD) Cost and Schedule variances exceeding + / - 10 percent or one million dollars require submission of narratives to explain the variance.

Schedule Variance Analysis: (-\$10.2M)

Spent Nuclear Fuel Project — 1.3.1/WM01

Description /Cause: The unfavorable schedule variance is due to re-planning activities for Site Wide SNF, Deactivation and MCO production.

Impact: None to report.

Corrective Action: Several BCRs are in progress, addressing such activities as aligning the MCO production baseline with the FH Sub-Contract, work scope adjustments associated with the CSB as well as MCO scrap-basket production, and the realignment of site-wide SNF integration activities.

Cost Variance Analysis: (+\$1.6M)

Spent Nuclear Fuel Project — 1.3.1/WM01

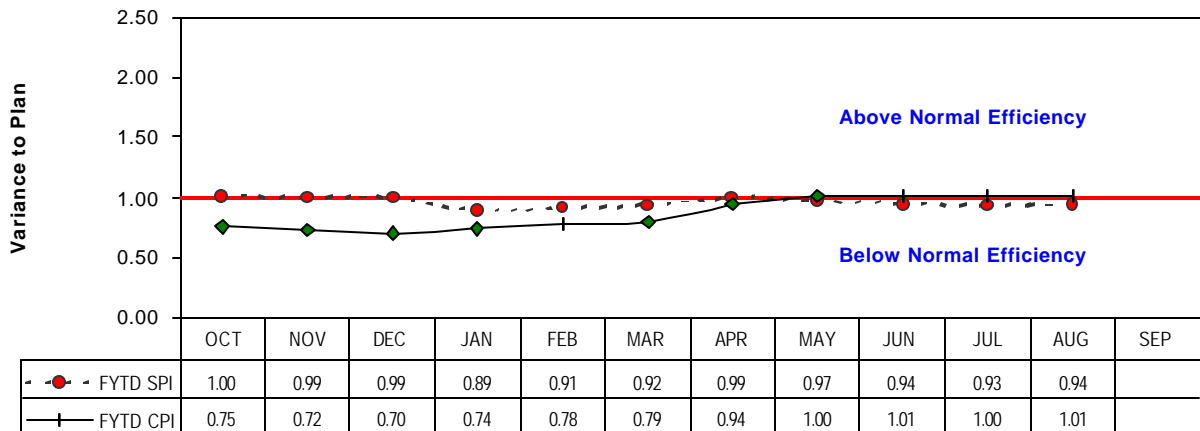
Description/Cause: The favorable cost variance is driven by underruns in the infrastructure support account and positive passbacks.

Impact: None to report.

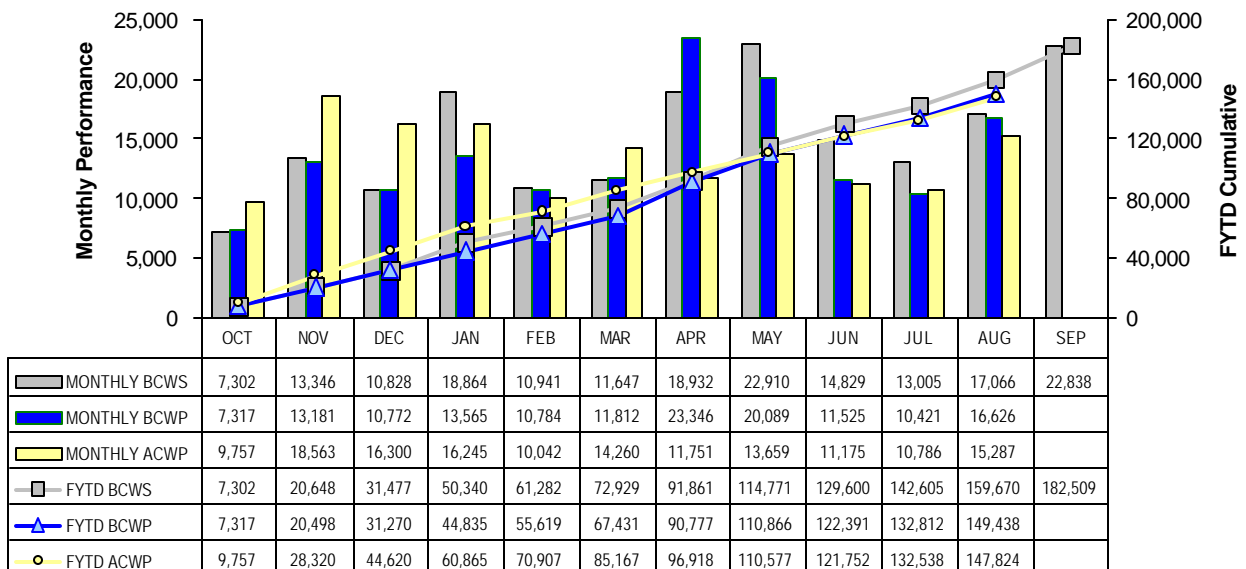
Corrective Action: None required.

COST/SCHEDULE PERFORMANCE (MONTHLY AND FYTD)

Cost/Schedule Performance Indices (FYTD)



**Performance Analysis
FYTD and Monthly (\$000s)**



FUNDS MANAGEMENT

FUNDS VS SPENDING FORECAST (\$000)

FY 2001 TO DATE

	Expected Funds	FYSF	Variance
1.3 Spent Nuclear Fuel			
WM01			
Project Completion - Operating	\$ 196,462	\$ 166,563	\$ 29,899
Total	\$ 196,462	\$ 166,563	\$ 29,899

[Status as of September 18, 2001]

(Expected Funds include approved FY 2001 Supplemental Funding)
The Funding Variance includes \$10m for supplemental funding and \$15.9m identified carry over needs

ISSUES

Technical Issues

Issue: Operations Ramp-up for fuel scale fuel movement continues to be a challenge.

Impact: Hiring and retention of key resources at SNFP are a concern given competing demands at Hanford.

Corrective Action: Currently, SNFP is aggressively recruiting key personnel critical to meeting the fuel production schedule. Over the next six months SNF will continue to be in the process of interviewing, hiring, training and qualifying a significant number Nuclear Process Operators. Currently the candidate pool for resource appears to be sufficient. SNFP is also in the process of identifying and interviewing candidates for Operating Engineers.

Issue: Equipment reliability continues to be a major concern for sustaining fuel movement.

Impact: Continued equipment failures may negatively impact meeting fuel movement commitments

Corrective Action: SNFP has brought in additional expertise in this area to help evaluate and enhance the Project's ability to predict potential future equipment failures. It is expected that the results of this evaluation will lead to changes in preventive maintenance practices and the development of effective recovery plans to mitigate impacts of future single point failure events.

Regulatory, External and DOE Issues and DOE Requests

None to report.

BASELINE CHANGE REQUESTS CURRENTLY IN PROCESS

PROJECT CHANGE NUMBER	DATE ORIGIN.	BCR TITLE	FY01 COST IMPACT \$000	SCH	TECH	DATE TO FH RMB	RMB APR'VD	RL APR'VD	CURRENT STATUS
SNF-2001-014	4/20/01	CSB Weld Station Acceleration	174	Y	Y	6/5/01	6/14/01		BCR Returned Without Action. RL comments to be addressed in revised BCR (SNF- 2001-014R1).
SNF-2001-016	4/30/01	Accelerated Sludge Capture and Removal Strategy	-6840	Y	Y	7/9/01	7/16/01		To RL for review/approval 7/17/01.
SNF-2001-023	6/9/01	K Basins Deactivation Acceleration	N	Y	N	7/9/01	7/16/01		To RL for review/approval 7/17/01.

KEY INTEGRATION ACTIVITIES

- SNF final disposition interface activities are ongoing with the National SNF Program, including Office of Civilian Radioactive Waste Management (OCRWM) Quality Assurance (QA) Program implementation. The OCRWM QA Program Audit was conducted by the National SNF Program, which resulted in no deficiencies or corrective actions.
- The SNF Project and Waste Management Project continued preparations for Shippingport Pressurized Water Reactor Core 2 SNF removal. An additional seven Shippingport Spent Fuel Canisters were shipped to Hanford by the Joseph Oat Corporation.
- The SNF Project and the River Corridor Project continued to interface on 324 Building (B Cell) SNF removal.
- Neutron Radiography Facility Training Research along with Isotope Production General Atomics (TRIGA) and Fast Flux Test Facility (FFTF) SNF relocation planning is ongoing with the FFTF Project.
- Activities continued for receipt of SNF discovered by Bechtel Hanford Inc. during upcoming 105F and 105H reactor basins deactivation at K Basins.
- The Sludge Handling Project and T Plant Operations continued preparations for K Basin sludge storage at T Plant.